

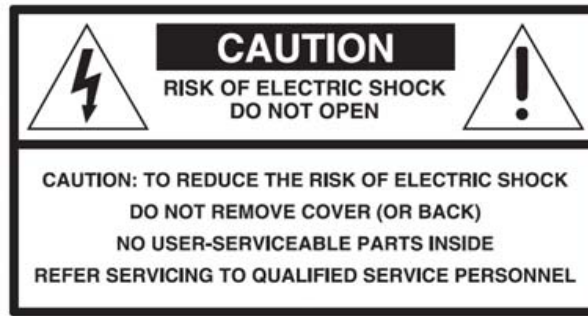


User Manual



L-629 Compressor

500 series module



PRECAUTIONS AND SAFETY CONSIDERATIONS

We designed our product with maximum care in accordance with international safety standards.

CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property.

These precautions include, but are not limited to, the following:

- Read setup instructions provided by us,
- Follow these instructions,
- Always insure that the compressor is properly grounded,
- Only use accessories manufactured, specified or recommended by Lipinski,
- Do not use un-authorized main cables,
- All servicing must be performed by our qualified personnel,
- Do not expose this product to moisture, rain or water or direct sunlight,
- Insure adequate air circulation around your compressor,
- Power sources — Connect this unit only to power sources specified in the Operating Instructions, and as marked on the unit,
- To avoid damage to your speakers and other playback equipment, turn off power to all related components before making any connections,
- Heat — Do not use this unit near heat sources, including heating vents, stoves, or other appliances that generate heat. It should not be placed in temperatures less than 40°F or higher than 95°F.

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“Welcome to the Lipinski family of electronics. Our L-629 compressor packs a few very unique features. Take time and familiarize yourself through this manual, so you can get the most from Lipinski products.”

*Lukas A. Lipinski
Executive Director*

1 INTRODUCTION

You have selected Lipinski equipment which hails from thirty years of recording experience of Mr. Andrew Lipinski and his devotion to state-of-the-art sound.

This L-629 Compressor has unusual features such as:

- Tape Simulation system
- Pre-compression system
- Low-frequency distortion elimination-system

Our L-629 Compressor is different from most devices you have had a chance to use. It is based on the fabled Fairchild Compressor. The signal path is free of capacitors and integrated circuits.

You can also use the LINK socket for joining two devices in stereo mode.

2 UNPACKING

Our product is carefully packed by us to maximize safety in transport. We advise that you unpack it on a soft, thick surface (carpet, fitted carpet, blanket etc)

It helps to save all original packing materials and use them when you move the product.

3 FEATURES

- ◇ Basic principle of operation and ballistics based on the famous Fairchild compressor
- ◇ Patented circuit completely eliminating distortion on low frequencies and on low-release time – all other compressors on short release time and on low frequencies changes amplification within single sine wave, commonly a major source of distortion
- ◇ Extremely fundamental design based on patented "Lipinski Square" circuitry
- ◇ No capacitors in the signal path
- ◇ No Integrated Circuits (IC's) in the signal path
- ◇ Only 0.04% maximum distortion with the highest (18dB) compression
- ◇ Extremely fast attack time - 0.01ms (1/5th 20kHz sine wave)
- ◇ Tape Simulation doesn't generate gimmicky even-harmonic distortions. This feature senses and triggers compression on high frequencies (correction within control network)
- ◇ Auto gain: 5 sec attack time, and 5 min release time
- ◇ Auto control has ballistics similar to VU meter, it is based on photo resistor, completely eliminates distortion with zero adjustment error - quality on output signal totally independent of input level
- ◇ Dual peak meter pre and post compression
- ◇ Hard wiring option for stereo operation

Low-frequency distortion elimination system

In analogue compressors when short release time is set, low-frequency input signals are considerably distorted. It occurs because the gain changes during a single period of the signal. The Lipinski Patented circuit designed by our engineers, eliminates this effect thoroughly.

Tape Simulation system

In a typical audio signal low-frequency components have greater level than high-frequency components. Standard compression mode treats equally all frequencies, which makes the sound very 'sharp'. By turning Tape Simulation on, compression for high-frequency components is increased by 3 dB.

Pre-compression unit

Proper signal level should be applied to the input of the main compressing unit. You can either set it at the source of the signal (FIXED IN) or let the device control it automatically (AUTO IN).

When the signal level is set at its source, its amplitude could be set to 0.775 V or 1.55 V (chosen by a switch on the mainboard).

The device can also control the input signal level automatically. To achieve this a pre-compressing unit is used. Its attack time is about 4 seconds and release time can be set between 120 and 300 sec. This results in nearly constant signal level at the input of the main compressing unit. So the signal level at the input of the device could be from 100 mV to 5 V (measured between signal line and ground). Caution: When signal with long piano periods is applied the effect may be compromised.

Extremely low distortion – 0.04 %

By using our patented compressing unit, our device can reach unusually low distortion.

LINK Socket

In stereo recordings identical compression ratios in both channels are necessary. You can achieve this by linking two L-629's together with LINK sockets.

Input and output peak level indicators

To show the difference between signal levels at input and output two peak level indicators are used.

4 DESCRIPTION

Nowadays, the Fairchild compressor is the most expensive classical professional audio device and its price reaches \$30,000.

Not only has the Lipinski Sound L-629 Compressor the same principle of operation, but also has the slightest distortion and the best microdynamics compared to other available products.

L-629 Compressor's principle of operation is identical to the legendary Fairchild compressor:

- ◇ In both compressors output signal is detected, which results in loading the compressing capacitor,
- ◇ In both devices the higher the voltage on the compressing capacitor is, the lower the gain is.

However, the Fairchild compressor, assembled over 50 years ago, has significant distortion and quite low dynamics.

To improve that, the new method of gain adjusting has been devised and patented.

However in the Lipinski L-629 compressor, variable resistance of the semiconductor circuitry effecting gain changes. This patented circuitry does not add any distortion to the signal.

The gain control unit is symmetrical in both of the devices, although the nonlinearity of the variable transconductance vacuum tubes is far higher than in L-629's patented circuitry.

Moreover, in Fairchild compressor, apart from significant distortion, low dynamics and the nonlinearity, there are 4 transformers and a few serial capacitors in the signal path. As a result of this, the Fairchild compressor adds 1% distortion with the dynamics of only 70 dB.

Compared to the Fairchild, the L-629 has an 0,04% distortion when maximum compression ratio and input signal level at +10 dB is applied. In addition its dynamics reach 100 dB (noises are 30 dB lower than in the Fairchild).

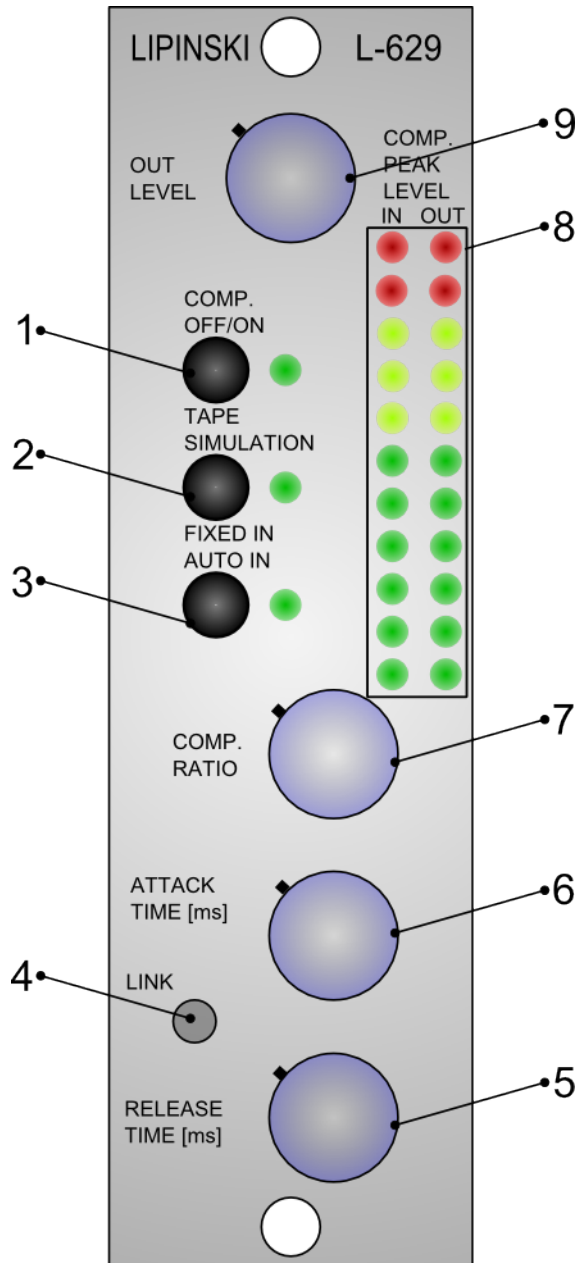
Not only has the L-629 no IC's in the signal path but also its signal path contains no transformers and capacitors. The L-629 is designed using pure A class components, with minimum feedback, making the microdynamics outstanding.

In addition, the nonlinear distortion can reach 10%, when low-frequency signal is applied and short Release Time is set, which is a problem for all compressors. Innovative circuitry in the L-629, which eliminates such distortion thoroughly, has been devised and patented. No other analogue compressor has such a feature.

5 PRODUCT SPECIFICATION

Parameter	Value
System	500 Series
Operating voltages	± 16 V
Power supply current	50 mA
Audio input	symmetrical
Input impedance	10 k Ω
Input level range (FIXED IN mode)	1.55 V or 3.1 V
Input level range (AUTO IN mode)	200 mV to 10 V
Audio output	symmetrical
Output impedance	75 k Ω
Output level (when COMP. OFF)	3.1 V
Output level (when COMP. ON)	1.1 V to 8.7 V
Dynamic range	100 dB
Maximum distortion	0.04 %
Attack Time range	0.02 ms to 160 ms
Release Time range	40 ms to 2.5 sec
Level meter range	-18 dB to +12 dB

6 FRONT PANEL DESCRIPTION



1. **COMP. OFF/ON**
If pressed, compressing unit is turned on. Otherwise the device acts like a linear amplifier
2. **TAPE SIMULATION**
Compression ratio for high tones is increased by 3 dB, what sounds like a magnetic tape
3. **FIXED IN / AUTO IN**
Turning the pre-compression unit on or off
4. **LINK**
Socket for linking two L-629's when in stereo mode
5. **RELEASE TIME**
6. **ATTACK TIME**
7. **COMP. RATIO**
8. **COMP. PEAK LEVEL**
Indicates peak levels before (IN) and after (OUT) compression
9. **OUT LEVEL**

7 QUICK GUIDE TO USING THE L-629 COMPRESSOR

Mounting

The L-629 Compressor requires a 500 Series rack.

First, turn off and unplug your rack frame. Make sure the slot you intend to use is clean and free of debris.

Set two switches (accessible through the hole in the chassis) in desired positions (see the “Features” section).

The “+6dB” position should be chosen when input signal amplitude (measured between differential signal lines) is 1.55 V. When this amplitude is 3.1 V the opposite position should be set.

Choose the desired pre-compression unit Release Time value between 120 sec and 300 sec.

Firmly and evenly push the L-629 Compressor into place until it is well situated in the card slot.

Mount the L-629 front panel with two screws, to the 500 series rack.

Note: The screws are tight-fitting. Make sure to not cross the thread.

Plug your 500 series rack back into the AC source.

Set-up and usage

Plug input and output cables, then power on the rack.

If the FIXED IN mode is used, set proper signal level at its source. The input level is set properly when “+3dB” and “+6dB” LED diodes blink occasionally and “+9dB” diode does not blink at all.

If the AUTO IN mode is used, the device does the set-up, which is done when “+12dB” diode stops blinking.

Choose desired compression ratio, attack and release time. When the ratio is 1.4 only loud sounds are compressed. Setting greater ratios result also in gaining low sounds.

When COMP is off, the output level is kept at 3.1 V and output level setting is inactive. Turning COMP on enables output level setting.

Link two devices with the cable with 1/8" stereo jacks if you work in stereo mode. It will eliminate the impression of moving sound sources.



We wish you fantastic, unforgettable, moments of audio performance.

The Lipinski Team